

CLAIMS

1. An isolated polypeptide comprising an amino acid sequence which has at least 85%
5 identity to an amino acid sequence selected from the group consisting of: SEQ ID NO:2,
SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8.

2. An isolated polypeptide as claimed in claim 1 in which the amino acid sequence has at
least 95% identity to the amino acid sequence selected from the group consisting of: SEQ
10 ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8.

3. The polypeptide as claimed in claim 1 comprising the amino acid sequence selected
from the group consisting of: SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID
NO:8.
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4. An isolated polypeptide of: SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6 or SEQ ID
NO:8.

5. An immunogenic fragment of the polypeptide as claimed in any one of claims 1 to 4 in
20 which the immunogenic activity of said immunogenic fragment is substantially the same
as that of the polypeptide of: SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6 or SEQ ID
NO:8.

6. An isolated polynucleotide comprising a nucleotide sequence encoding a polypeptide
25 that has at least 85% identity to the amino acid sequence of SEQ ID NO:2,4,6 or 8 over the
entire length of SEQ ID NO:2,4,6 or 8 respectively; or a nucleotide sequence
complementary to said isolated polynucleotide.

7. An isolated polynucleotide comprising a nucleotide sequence that has at least 85% identity to a nucleotide sequence encoding a polypeptide of SEQ ID NO:2,4,6 or 8 over the entire coding region; or a nucleotide sequence complementary to said isolated polynucleotide.

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8. An isolated polynucleotide which comprises a nucleotide sequence which has at least 85% identity to that of SEQ ID NO:1,3,5 or 7 over the entire length of SEQ ID NO:1,3,5 or 7 respectively; or a nucleotide sequence complementary to said isolated polynucleotide.

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9. The isolated polynucleotide as claimed in any one of claims 6 to 8 in which the identity is at least 95% to SEQ ID NO:1,3,5 or 7.

10. An isolated polynucleotide comprising a nucleotide sequence encoding the polypeptide of SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6 or SEQ ID NO:8.

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11. An isolated polynucleotide comprising the polynucleotide of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5 or SEQ ID NO:7.

12. An isolated polynucleotide comprising a nucleotide sequence encoding the polypeptide of SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6 or SEQ ID NO:8 obtainable by screening an appropriate library under stringent hybridization conditions with a labeled probe having the sequence SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7 or a fragment thereof.

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13. An expression vector or a recombinant live microorganism comprising an isolated polynucleotide according to any one of claims 6 to 12.

14. A host cell comprising the expression vector of claim 13 or a subcellular fraction or a membrane of said host cell expressing an isolated polypeptide comprising an amino acid

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sequence that has at least 85% identity to the amino acid sequence selected from the group consisting of: SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8.

15. A process for producing a polypeptide comprising an amino acid sequence that has at
5 least 85% identity to an amino acid sequence selected from the group consisting of: SEQ
ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8 comprising culturing a host cell of
claim 14 under conditions sufficient for the production of said polypeptide and recovering
the polypeptide from the culture medium.

10 16. A process for expressing a polynucleotide of any one of claims 6 to 12 comprising
transforming a host cell with the expression vector comprising at least one of said
polynucleotides and culturing said host cell under conditions sufficient for expression of
any one of said polynucleotides.

15 17. A vaccine composition comprising an effective amount of the polypeptide of any
one of claims 1 to 5 and a pharmaceutically acceptable carrier.

18. A vaccine composition comprising an effective amount of the polynucleotide of any
one of claims 6 to 12 and a pharmaceutically effective carrier.

20 19. The vaccine composition according to either one of claims 17 or 18 wherein said
composition comprises at least one other *Neisseria meningitidis* antigen.

25 20. An antibody generated against the polypeptide or immunological fragment as
claimed in any one of claims 1 to 5.

21. A method of diagnosing a *Neisseria meningitidis* infection, comprising identifying a
polypeptide as claimed in any one of claims 1 to 5, or an antibody that is immunospecific

for said polypeptide, present within a biological sample from an animal suspected of having such an infection.

22. Use of a composition comprising an immunologically effective amount of a polypeptide as claimed in any one of claims 1 to 5 in the preparation of a medicament for use in generating an immune response in an animal.

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23. Use of a composition comprising an immunologically effective amount of a polynucleotide as claimed in any one of claims 6 to 12 in the preparation of a medicament for use in generating an immune response in an animal.

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24. A therapeutic composition useful in treating humans with *Neisseria meningitidis* disease comprising at least one antibody directed against the polypeptide of claims 1 to 5 and a suitable pharmaceutical carrier.

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